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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,677	01/11/2005	Yoshihito Yaginuma	1830.1003	9266
21171	7590	11/19/2007	EXAMINER	
STAAS & HALSEY LLP			WHITE, EVERETT NMN	
SUITE 700			ART UNIT	
1201 NEW YORK AVENUE, N.W.			PAPER NUMBER	
WASHINGTON, DC 20005			1623	
			MAIL DATE	DELIVERY MODE
			11/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/520,677

Applicant(s)

YAGINUMA ET AL.

Examiner

Everett White

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 4-15 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/11/05; 3/25/05; &amp; 5/7/07</u> .                         | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Applicant's election without traverse of Group I, Claims 1-3 and 16 in the reply filed on October 15, 2007 is acknowledged.
2. The instant Application has been transferred to Art Unit 1623.
3. Claims 1-17 are pending in the case. Claims 4-15 and 17 have been withdrawn from consideration as been directed to non-elected inventions.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Dinand et al (US Patent No. 5,964,983).

Applicants claim a water-dispersible cellulose, the cellulose being derived from a plant cell wall, crystalline and fine fibrous, and comprising 30% by weight or more of a component stably suspensible in water and having a loss tangent of less than 1, when made into a 0.5% by weight aqueous dispersion.

The Dinand et al patent discloses microfibrillated cellulose comprising 50% crystalline, which anticipates the instantly claimed water-dispersible cellulose, wherein the cellulose is crystalline and in the form of fine fibrous. The Dinand et al patent anticipates the instant claims since the instant specification recites on page 13, lines 23-26 that a water-dispersible cellulose can be said to have a crystallinity exceeding 50%, as long as the over-all crystallinity is 50% or more. The recited properties disclosed in the instant claims that include the water-dispersible cellulose comprising 30% by weight or more of a component stably suspensible in water and having a loss tangent of less than 1 or 0.6, when made into a 0.5% by weight aqueous dispersion, are inherent properties of the 50% crystalline microfibrillated cellulose of the Dinand et al patent since products of identical chemical composition cannot have mutually exclusive

Art Unit: 1623

properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada* 15 USPQ 2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01. See column 1, lines 15 and 16 of the Dinand et al patent wherein the cellulose thereof is intended for use as a thickener to stabilized dispersion for low calorie food products and low fat or low cholesterol food products, which anticipates the food composition of instant Claim 16.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1623

7. Claims 1-3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinand et al (US Patent No. 5,964,983) in view of Turbak et al (US Patent No. 4,483,743).

Applicants claim a water-dispersible cellulose, the cellulose being derived from a plant cell wall, crystalline and fine fibrous, and comprising 30% by weight or more of a component stably suspensible in water and having a loss tangent of less than 1, when made into a 0.5% by weight aqueous dispersion.

The Dinand et al patent discloses microfibrillated cellulose comprising 50% crystalline, which embraces the instantly claimed water-dispersible cellulose, wherein the cellulose is crystalline and in the form of fine fibrous. The Dinand et al patent embraces the instant claims since the instant specification recites on page 13, lines 23-26 that a water-dispersible cellulose can be said to have a crystallinity exceeding 50%, as long as the over-all crystallinity is 50% or more. See column 1, lines 15 and 16 of the Dinand et al patent wherein the cellulose thereof is intended for use as a thickener to stabilized dispersion for low calorie food products and low fat or low cholesterol food products, which embraces the food composition of instant Claim 16.

The water-dispersible cellulose of the instant claims differs from the crystalline microfibrillated cellulose of the Dinand et al patent by claiming that the water-dispersible cellulose comprises 30% by weight or more of a component stably suspensible in water when made into a 0.5% by weight aqueous dispersion.

The Turbak et al patent discloses substantially stable suspensions of microfibrillated cellulose (see abstract) and teaches that substantially stable suspension can be define as a suspension in water which upon dilution to 0.5% and upon standing for one hour, maintains at least 60% of its original volume, i.e. contains no more than 40% of clear liquid (see column 3, lines 28-32). Since the Dinand et al patent discloses microfibrillated cellulose which is 50% crystalline, it would be obvious for the suspension stability of the microfibrillated cellulose to be reduce to half, from 60% stability of the microfibrillated cellulose of the Turbak et al to 30% stability for the microfibrillated cellulose of the Dinand et al patent which is 50% crystalline.

One of ordinary skill in this art would be motivated combine the teaching of the Dinand et al patent with the teaching of the Turbak et al patent since both patents disclose microfibrillated celluloses.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the suspension stability in water of the 50% crystalline microfibrillated cellulose of the Dinand et al patent would be reduced to 30% suspension stability in view of the recognition in the art, as evidenced by the Turbak et al patent, that the suspension stability of microfibrillated cellulose that is non-crystalline has a suspension stability of 60%. Reduction of the components that allows for water suspension stability in the microfibrillated cellulose of the Turbak et al patent obviously would result in decrease of the water suspension stability of the microfibrillated cellulose.

8. Claims 1-3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinand et al (US Patent No. 5,964,983) in view of Kajita et al (JP Pub. No. 58013713 A).

Applicants claim a water-dispersible cellulose, the cellulose being derived from a plant cell wall, crystalline and fine fibrous, and comprising 30% by weight or more of a component stably suspensible in water and having a loss tangent of less than 1, when made into a 0.5% by weight aqueous dispersion.

The Dinand et al patent discloses microfibrillated cellulose comprising 50% crystalline, which embraces the instantly claimed water-dispersible cellulose, wherein the cellulose is crystalline and in the form of fine fibrous. The Dinand et al patent embraces the instant claims since the instant specification recites on page 13, lines 23-26 that a water-dispersible cellulose can be said to have a crystallinity exceeding 50%, as long as the over-all crystallinity is 50% or more. See column 1, lines 15 and 16 of the Dinand et al patent wherein the cellulose thereof is intended for use as a thickener to stabilized dispersion for low calorie food products and low fat or low cholesterol food products, which embraces the food composition of instant Claim 16.

The water-dispersible cellulose of the instant claims differ from the crystalline microfibrillated cellulose of the Dinand et al patent by claiming that the water-dispersible cellulose has a loss tangent of less than 1, when made into a 0.5% by weight aqueous dispersion.

The Kajita et al publication discloses fiber manufactured from cellulose derivative solutions in a liquid crystal state, which suggests fibrous cellulose comprising crystalline components as instantly claimed. Kajita et al discloses that the cellulose derivative solution thereof comprises a mechanical loss tangent of 0.06, which is within the range of the loss tangent disclosed in the instant claims of being less than 0.6.

One of ordinary skill in this art would be motivated to combine the teachings of the Dinand et al patent with the teaching of the Kajita et al publication since both references disclose cellulose comprising fiber and crystalline components.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate into the crystalline microfibrillated cellulose of the Dinand et al patent a loss tangent of less than 0.6 in view of the recognition in the art, as evidenced by Kajita et al publication, that cellulose derivative fiber of high elasticity and heat resistance can be prepared.

#### ***Information Disclosure Statement***

9. The information disclosure statement filed January 11, 2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

10. The information disclosure statement filed January 11, 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

**Summary**

11. Claims 1-3 and 16 are rejected; Claims 4-15 and 17 are withdrawn from consideration as being directed to non-elected inventions.

***Examiner's Telephone Number, Fax Number, and Other Information***

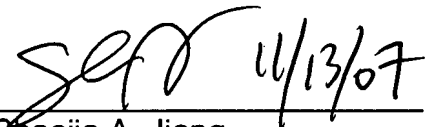
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is 571-272-0660. The examiner can normally be reached on 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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E. White

  
Shaojia A. Jiang  
Supervisory Primary Examiner  
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